55TH CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { REPORT No. 1537.

MIXED FLOUR.

JUNE 8, 1898.—Committed to the Committee of the Whole House on the state of the Union and ordered to be printed.

Mr. TAWNEY, from the Committee on Ways and Means, submitted the following

REPORT.

[To accompany H. R. 9380.]

The Committee on Ways and Means have had under consideration the bill (H. R. 9380) defining mixed flour and also imposing a tax upon and regulating the manufacture, sale, importation, and exportation thereof.

This bill was presented to the committee as a substitute for H. R. 6705, introduced by Mr. Pearce, of Missouri, January 17, 1898.

Hearings before the full committee were granted to all persons who expressed a desire to be heard. The evidence thus presented to the committee will be found in Document No. 309, and consists of a report submitted by the Secretary of Agriculture showing the fact and extent of the adulteration of wheat flour, together with the kind and character of the adulterants used; also the statements of the representatives of the millers' executive committee, the Millers' National Association, the Winter Wheat Millers' League, the Southwestern Winter Wheat Millers' Association, the Illinois Millers' Association, besides representatives from the millers' State associations of Minnesota, the Dakatos, Wisconsin, Michigan, and all other States where flour or corn milling is a leading industry. The document referred to also contains letters from foreign buyers of American flour and reports from American consuls upon the fact and effect of the adulteration of wheat flour upon the export flour trade of the United States.

All of the foregoing evidence was submitted in support of this proposed legislation. In addition, there was filed with the committee numerous petitions and resolutions from boards of trade, chambers of commerce, and produce exchanges, representing almost every State in the Union, urging the passage of H. R. 9380, herewith reported. The only interest represented before the committee and appearing for the purpose of opposing the bill was the Glucose Sugar Refining Company, of Chicago.

The most important facts found by the committee from the evidence submitted are that wheat flour is, and for the past two years or more

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has been, adulterated by manufacturers and dealers in certain sections of the country and sold for pure wheat flour at about pure wheat-flour prices, and that in almost every case the adulterants used are deleterious to health. The principal adulterants are corn flour, flourine, mineraline, and barytes. The chemical analyses of the three last-named products prove that all of them contain matter positively injurious to health, while mineraline and barytes contain absolutely no muscle-creating or life-sustaining qualities whatever.

In flourine, the adulterant most generally used, the amount of protein or muscle-forming material is so small that, according to the report of the Department of Agriculture, a laboring man would have to consume 150 pounds of it per day in order to obtain a sufficient amount of protein for an average day's work. (See Bulletins 21, 23, and 45, U. S. Experiment Stations, Department of Agriculture.)

In a letter transmitting a chemical analysis of flourine Professor Snyder, of the University of Minnesota, says:

> This flourine contains 0.018 per cent of free sulphuric acid. The acid character is so pronounced that when a piece of sensitive blue litmus paper is pressed against the dampened flour the paper is turned red, indicating the presence of free acid. The reaction of flourine is decidedly acid. The excess of acid has undoubtedly been used to give the material a better appearance, and also to prevent fermentation when the product is mixed with flour.

In this same letter Professor Snyder sums up the objectionable features of flourine as follows:

> Briefly stated, the analysis shows the objectionable features of flourine to be: The absence of bone-forming materials as phosphates, and the presence of objectionable mineral matter as sulphate of soda. Flourine is deficient in both protein and fat, and contains free sulphuric acid. If a person were fed on pure flourine he would soon die for the want of the proper vital nutrients, because starch alone can not sustain life.

The following is the result of the chemical analysis of flourine referred to in the letter of Professor Snyder:

Station No. 2800.] UNIVERSITY OF MINNESOTA EXPERIMENT STATION,
CHEMICAL LABORATORY,
St. Anthony Park, Minn., April 13, 1898.

W. C. EDGAR:

The sample of flourine received April 10, 1898, has been found to have the following composition upon analysis:

	Per cent.
Water	8.73
Ash	.25
Proteids	.18
Amide bodies	.24
Fat	.48
Starch	88.69
Glucose, peutosaus, and cellulose	1.41
Free sulphuric acid	.018

HARRY SNYDER, *Chemist.*

The fact that sulphuric acid is used in the manufacture of flourine was admitted by Dr. Arno Behr, who appeared before the committee as a representative of the Glucose Sugar Refining Company, and who is in the employ of said company as an analytical chemist, the quantity of acid thus admitted being not less than two ounces to a barrel of water. The use of sulphuric acid in the manufacture of glucose and flourine is also proven by the affidavit of Frank W. Powers, of St. Louis, Mo., who for more than two years was the head miller in a glucose mill. (See printed Hearings, p. 111.) The presence of this acid in flourine

being established by the science of chemistry, by the sworn testimony and admissions of the employees of the producers of flourine, the evidence of experts and scientists is not necessary to prove that flourine used in the adulteration of wheat flour is injurious to health. If evidence of this character is needed, it may be found in the letter of Dr. George M. Kober, a reputable physician of the city of Washington, who for a number of years has made a study of this matter. Evidence to the same effect may be found in the letter of Prof. H. Wiley, Chief of the Division of Chemistry, United States Department of Agriculture. (See p. 67 of the printed Hearings.)

Mineraline used as a wheat-flour adulterant is nothing more nor less than white clay, or kaolin, ground into a flour. Its constituent parts are shown by the chemical analysis made by the same chemist who analyzed the flourine hereinbefore referred to. The result of his analysis is herewith submitted:

Station No. 2826.] UNIVERSITY OF MINNESOTA EXPERIMENT STATION,
CHEMICAL LABORATORY,
St. Anthony Park, Minn., May 24, 1898.

W. C. EDGAR:

The sample of mineraline received May 23, 1898, has been found to have the following composition upon analysis:

	Per cent.
Silica (sand held in chemical combination)	26.19
Aluminia	52.40
Potash	18.34
Water (of hydration)	3.07
Insoluble in hydrochloric acid	95.59

The material is feldspar, and contains a small amount of clay (as an impurity). It is a mineral found quite abundantly in many localities.

HARRY SNYDER, *Chemist.*

I also submit the letter of Professor Snyder transmitting the analysis of this mineraline:

UNIVERSITY OF MINNESOTA, AGRICULTURAL EXPERIMENT STATION,
St. Anthony Park, Minn., May 24, 1898.

DEAR SIR: I inclose the report of the analysis of the material called "mineraline." The analysis shows that it is feldspar, containing a little clay. Feldspar is a mineral which is used for making the glaze on porcelain. If used as an adulterant in flour it would be most decidedly injurious to health. This material is in a very fine state of division, and, being insoluble and indigestible, it would seriously interfere with the digestion and absorption of the food, to say nothing of its action as an irritant.

Mineraline has a slimy feeling and leaves a highly polished surface. It is one of the most insoluble substances found in nature. In order to get it into condition for analysis it must first be roasted with strong fluxes at a high temperature. Concentrated hydrochloric acid dissolves less than 5 per cent of it.

Its use as an adulterant would be equivalent to using pulverized rock.

Very truly, yours,

HARRY SNYDER.

Mr. W. C. EDGAR,
Northwestern Miller, Minneapolis, Minn.

Barytes, which is another adulterant used by the sophisticators of wheat flour, is a white rock, too well known to require any explanation or analysis to demonstrate the iniquity of its use in the manufacture of flour. When ground, as it is, into a flour it so nearly resembles in appearance wheat flour that it is practically impossible to detect the difference with the eye or by the sense of the touch. The ease with which a large percentage of this adulterant may therefore be used in the manufacture of wheat flour without the fear of being detected is

very apparent. The fact that it is being used is proven by the following letter from a reputable wholesale flour establishment of Louisville, Ky.:

LOUISVILLE, KY., *April 26, 1898.*

DEAR SIR: We inclose you sample of what to us is a new method of adulteration. It is pulverized rock (barytes), and is being used by one of the large millers in this section. What per cent he is using we can not say, but it is found in considerable quantities in flour under his brand. Adulteration with corn products is plain stealing, but what do you think of adding injury to the theft?

This flour is sold principally in the Southeastern States.

We are, yours truly,

JEFFERSON & CO.

EDITOR OF NORTHWESTERN MILLER, *Minneapolis, Minn.*

From the evidence thus presented to the committee there is no room to question the fact that our wheat flour is to-day adulterated with material absolutely deleterious to health. This practice, therefore, constitutes a menace to the health of more than 70,000,000 people. But it is not alone the public health that demands a remedy for the evil of adulteration. Flour is not alone the product from which the "staff of life" is made, but is one of our most important articles of foreign and domestic commerce.

The milling industry is now the largest single industry in the United States, but it can not long exist part honest and part dishonest. Competition between the honest miller who manufactures flour from all wheat and the dishonest miller who manufactures flour from part wheat and part cornstarch, flourine, barytes, or mineraline, and then sells it for the pure article, must either destroy the business of the honest miller or make him a rascal like his dishonest competitor. No one who will stop to consider the facts will deny that this is not competition, but annihilation. This great and constantly growing industry is, therefore, seriously menaced by the fraudulent practice which has recently grown up among a class of men who, for the sake of larger profits, will not hesitate to destroy the health of their fellow-men. That this practice is rapidly driving the honest miller out of business or forcing him to be a dishonest producer of flour is evidenced by the following correspondence:

CHAMBERSBURG, PA., *February 7, 1898.*

MR. AUGUSTINE GALLAGHER,
Washington, D. C.

DEAR SIR: We are gratified to note the great interest you have taken against the adulteration of flour. We ourselves are greatly interested in this subject, and believe every responsible manufacturer would issue a protest against the continuation of this malicious practice if they would but know or appreciate the results as it is probable we may see them in a few years hence if the Government does not put a stop to it.

Our business recently, we are well aware, has been quite profitable, it having been made so by the sale of corn mill and blending machinery for warehouses, etc. This machinery is demanding a big price. We know, however, on the other hand, that this blending or mixing is injuring the trade of the honest and responsible miller, and especially is it injuring the little fellows, or mills which are doing local work. To cite one instance, we inclose you a communication just recently received from one of our friends, Mr. W. P. Sykes. He has a small mill of 50 barrels capacity, and has always been up with the times, no doubt making money. You can infer from his letter, however, what is staring him in his face, and what is representative of like situations in probably 15,000 mills in the United States. While we are not directly interested in this matter, yet we feel as though what affects the miller affects us, and if we can be of any assistance in having this matter adjusted we would thank you to kindly command us; and with best wishes for your success, we are,

Yours, very truly,

THE WOLF CO.,
Per H. G. WOLF.

This company last year did a business of perhaps $400,000. It is by no means the largest of its kind in the country, but is one of the most

enterprising, and is very keen to see that when they carry on business to compete with legitimate milling business of this country it is probably going to eat in and tear down the whole fabric.

CLEVELAND, TENN., *January 18, 1898.*

The WOLF COMPANY, *Chambersburg, Pa.*

DEAR SIRS: Since I put in gyrators and had mill running I have made some heavy inroads on the local trade of Sweetwater Mill Company and others, and recently they cut my prices 40 cents per barrel. I can't meet them and use all wheat. They mix heavy. Now, what am I to do? Would you advise me to mix too? There are three large mills near me. They all mix with corn flour. I can't meet their prices and use 4¾ bushels $1.05 wheat. The trade all prefer my flour at same price, but won't pay 40 cents a barrel more. What would you advise doing? I don't propose to be run out and won't do business just for fun. I would thank you for some advice, and I dislike very much the idea of mixing; but it is to be mix or else——

Yours, very truly, W. P. SYKES.

P. S.—What kind of machine does Peerless Machine Company, of York, make? They make a blender. What would be necessary to equip me?

Yours, W. P. S.

For the past year the various milling associations of the United States whose members are doing an honest and legitimate business have sought to detect and expose the men who are engaged in the nefarious practice of mixing impure products with wheat flour. The result of their investigation shows that in the year 1897 there was manufactured and sold between five and six million barrels of adulterated flour, and the business is only in its infancy. The percentage of wheat flour displaced by the use of these adulterants varies from 10 to 50 per cent, according to the conscience of the person engaged in the business. Some idea of the extent to which these noxious adulterants are manufactured and sold for the purpose of adulterating flour, and also the price and the manner in which they are used, may be gathered from the following circular letters, which are specimens of letters sent broadcast to the milling trade of the United States by the manufacturers of these adulterants:

THE GLUCOSE SUGAR REFINING COMPANY,
GENERAL OFFICES, THE ROOKERY,
Chicago, November 2, 1897.

HARVEST QUEEN MILLS,
Elkhart, Ind.

DEAR SIRS: We quote to-day's prices in carload lots, freight prepaid to your city, as follows: Flourine in 140-pound jute bags, $1.22 per 100 pounds; in barrels, $1.27 per 100 pounds. For shipment within thirty days from date of purchase, dates of shipment to be specified with order. Terms net cash ten days from date of shipment. Quotations named are subject to change without notice.

This grade is made expressly for the flour-mill trade; see inclosed circular for directions how to use it.

We trust the low quotation, the extra choice quality of our product, and the time of shipment will result in placing your orders with us.

Yours, truly,

THE GLUCOSE SUGAR REFINING CO.

NOTE.—Italics ours.

Accompanying the above was the following:

INSTRUCTIONS HOW TO MIX AND HANDLE OUR PRODUCT.

We would advise substituting 10 per cent in patent, straight, and clears, *and 15 per cent in the lower grades.* With this percentage good results are obtained in both bread and biscuits, flourine being a natural product of both wheat and corn. All that is necessary or required to mix and assimilate thoroughly would be to feed the flourine into the finished product of the mill, conveying the mixture twenty or twenty-five feet; with this amount of conveying the flourine will be thoroughly mixed with the flour. It is not necessary to feed the flourine through the bolts in any particular, as the same is thoroughly pulverized and double bolted, and kiln dried to a very

dry moisture percentage, whereas flour has a minimum of 13 and a maximum of 19, showing the keeping qualities in favor of flourine. We would call your attention to the fact that the germ or oily substance of corn is extracted, thereby assuring the flourine from becoming yellow or fermenting, which would be the case with corn flour.

In using flourine as a substitute, *especially in the lower grades,*[1] they are brought out in color *at least two grades thereby,* enabling the miller also to obtain on the particular grade from 15 cents to 30 cents per barrel more with the mixture than without. FOR ALL SOUTHERN TRADE FLOURINE IS USED VERY EXTENSIVELY, as all flours are judged by their colors, enabling the miller to produce whiter flour and meet competition by using our product.

THE YORK MANUFACTURING COMPANY,
Greensboro, N. C., May 7, 1898.

GENTLEMEN: We invite your attention to our mineraline, which is without a doubt the greatest existing discovery.

There is no flour-mill man who can afford not to use it, for several reasons:

Your flour will be much whiter and nicer; it does not injure the flour in any way; is not at all injurious to the health, and by using mineraline you realize a margin of from $400 to $1,600 on each car load you use.

To secure a low freight rate we mark it as "ship stuff."

We can furnish you mineraline, f. o. b. cars your station, for high-grade flour at $20 per ton, for medium-grade flour at $16 per ton, for bread meal at $12 per ton, and for feed meal at $8 per ton.

For a high-grade flour use 15 per cent mineraline, for medium-grade flour use 12 per cent mineraline, for bread meal use 12 per cent mineraline, and for feed meal use 18 per cent mineraline.

We furnish all our customers with a mixer free of charge. This machine will distribute completely any proportion desired, and costs nothing to attach.

All you have to do is to bore a hole in your elevator pipe, clamp on the machine, attach a cord to run it, fill up the hopper, and set the feed to the proportion desired.

Inclosed find sample of our mineraline for medium-grade flour.

You can not afford to let your competitor beat you in both quality and margin. We would be glad to hear from you.

Very truly, yours,

THE YORK MFG. CO.
By M. H. K.

The MARSHALL KENNEDY MILLING COMPANY,
Allegheny, Pa.

The above letter of the Glucose Sugar Refining Company, of Chicago, it will be observed, is dated November 2, 1897. The price of flourine there quoted is $1.22 per 100 pounds. In the following letter, addressed to the New Ulm Roller Mill Company, of New Ulm, Minn., this same company, under date of May 25, 1898, quotes the price of flourine at $1.50 per 100 pounds—an increase in the price, since November last, of 28 cents per 100 pounds, showing an increased demand for this product and, consequently, its increased use as an adulterant of wheat flour. The letter referred to is herewith submitted:

THE GLUCOSE SUGAR REFINING COMPANY,
Chicago, May 25, 1898.

DEAR SIRS: We quote to-day's prices in car-load lots, freight prepaid to your city, as follows:

Flourine in 140-pound jute bags, $1.50 per 100 pounds.

For shipment within thirty days from date of purchase, dates of shipment to be specified with order. Terms: Sight draft, bill of lading attached. The quotation named is subject to change without notice.

This grade is made expressly for the flour-mill trade. We trust the low quotation, the extra choice quality of our product, and time of shipment will result in placing your order with us.

Yours, truly,

THE GLUCOSE SUGAR REFINING COMPANY.

NEW ULM ROLLER MILL COMPANY,
Minneapolis, Minn.

We produce about 550,000,000 bushels of wheat annually. Estimating that the adulterator uses only 10 per cent, or 20 pounds of his substi-

tute to each barrel of flour, as he is advised by the Glucose Company and the mineraline people for high-grade flour, this would show a displacement of 55,000,000 bushels of wheat annually, if all wheat flour produced was adulterated. I mention this merely to show the possibilities that unfold themselves to those who stop to consider this proposition in all of its various aspects. The practice, therefore, of using these substitutes for corn and wheat in the manufacture of flour affects not only the health of the people—it not only tends to destroy the milling industry of the United States, but it also affects every farmer engaged in the production of either corn or wheat. And in addition to this, unless this practice of manufacturing adulterated flour and selling it for pure flour is stopped, our foreign flour trade, which in 1897 equaled almost 15,000,000 barrels, will be entirely destroyed.

From the reports of American consuls abroad, and from letters written by foreign buyers of American flour, presented to the committee and printed in the hearings on House bill 9380, the American export trade in flour is not only menaced, but is actually suffering to-day on account of the practice of adulterating wheat flour, shipping it abroad, and there selling it in competition with pure flour. Consul McCunn, of Dunfermline, on February 24, 1898, says:

> American flour is looked upon with suspicion, owing to the fact that it is believed to be mixed with corn ground exceedingly fine. I have it from unquestionable authority that four out of nine samples of American flour tested within the past three weeks are alleged to contain 10 per cent of corn flour. The high price of wheat and the low price of corn are believed to have led unscrupulous millers to adulterate their flour in this manner. If this adulteration is not speedily checked it will expose the American flour trade to great danger, the effects of which will be far-reaching.

I also quote an abstract of a letter from H. Pulvermacher, of Hamburg, Germany, April 4, 1898, addressed to Kehlor Bros., of St. Louis, Mo., as follows:

> Naturally there is considerable talking about flour adulteration. Every one of the importers, of the reasonable wholesale dealers, and consumers with us know very well that none of the big milling concerns, doing three-fourths or more of the trade in American flour in Germany, will ship an adulterated stuff. All these concerns have to lose a good repute, and nobody thinks these firms will risk it.
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> But there is also some flour sent to Germany, by unknown mills almost, as consignments. If a bit of such an issue is found adulterated with corn flour or starch, this would do an inexpressible harm to the whole trade. Our home millers are not very favorably inclined toward the competition from abroad, and although I have not heard about a single lot seized with us as adulterated, the millers and agrarian press is exhibiting very much zeal to spread the rumors about adulteration in America. And I have not the slightest doubt that our Government will support them and will forbid or complicate the importation as soon as a single case of imported adulterated flour is found out. And such steps will enjoy the approval of the majority of people with us, because, as a rule, the tendency prevails in Germany to allow the importation of the raw material and to make difficult the importation of the manufacture. In such case of evidence of sending to us adulterated flour the honest miller will suffer under the fraudulent manipulations of the mixer. As the danger is imminent I can also commend heartily the vigorous proceedings of the honest American miller to protect their trade, acquired with great pains; and a well-advised government ought to help them in any way.

The evils growing out of the business of mixing with wheat flour the refuse starch of the glucose factories, or ground clay, or rock, are so enormous, so far-reaching, so dangerous to the public health, and so injurious to legitimate trade, commerce, and industry, that Congress should promptly apply an appropriate and an effective remedy. A remedy that will not alone require those engaged in the business of adulterating flour to brand their product and sell it for what it is, thereby protecting the consumer, but a remedy that will also require these parties to contribute to the support of the Government by the

payment of a tax upon the sale of their product, thereby insuring the enforcement of the law by the agents of the Government charged with the duty of collecting its revenue. This is all that the accompanying bill proposes. It requires the producers of mixed flour to brand their product, specifying the ingredients used in its manufacture, and at the same time the bill seeks to raise revenue for the Government—at a time, too, when more revenue is needed—thus affording to all classes protection against this fraud and possible disease. It proposes to suppress false pretenses and to promote fair dealing in the manufacture and sale of an article of food universally consumed. It will compel the sale of mixed flour for what it really is by preventing its sale for what it is not.

The power of Congress to enact legislation of this kind will not be questioned. This power has been exercised on several occasions in the past. Once, in 1886, by the passage of the act commonly known as the oleomargarine law, and again, in 1896, by the passage of an act known as the filled-cheese law. The right of Congress to enact either of these laws has never been questioned in the courts of last resort. Their benefit to the producers and consumers of pure butter and pure cheese is likewise conceded, while neither the Constitution nor the Government has suffered by the enactment or by the administration of these measures. In a case recently decided by the Supreme Court of the United States, involving the right of the State of Massachusetts, under the Constitution of the United States, to enact a law to regulate the manufacture and sale of oleomargarine, Justice Harlan, in delivering the opinion of the Court, said:

> Can it be that the Constitution of the United States secures to anyone the privilege of manufacturing and selling an article of food in such manner as to induce the mass of people to believe that they are buying something which in fact is wholly different from that which is offered for sale? Does the freedom of commerce among the States demand a recognition of the right to practice a deception upon the public in the sale of any articles, even those that may have become the subject of trade in different parts of the country?

Under the evidence, therefore, as to the fact and the effect of the adulteration of wheat flour, and under the precedents heretofore established by Congress, it is the judgment of the committee that the bill herewith reported should become a law, with the following amendment:

After the word "upon," on page 4, line 2, insert "the manufacture and sale, or removal for sale of."

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